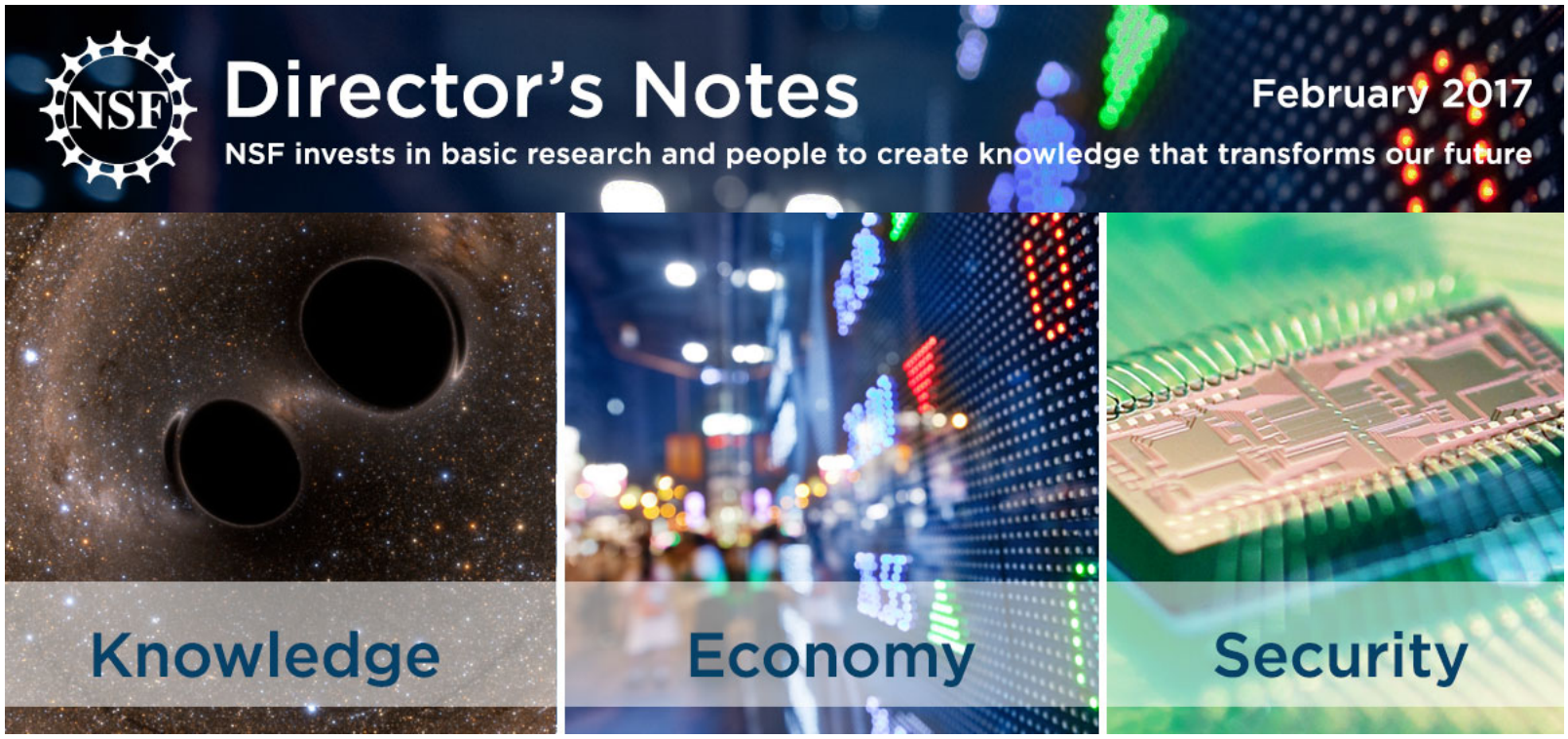
A monthly message from NSF's Director



A Message from the Director of the National Science Foundation

For more than a century, The Optical Society (OSA) has championed optics, and in the last 40 years or so, photonics. These light-based technologies are now integral to the way we communicate, explore, heal and do business. And so earlier this month, I was honored to receive OSA's 2017 Advocate of Optics Award. OSA is an important partner in advancing research in optics and photonics as well as supporting companies that produce these enabling technologies.

Since the 1970s, the National Science Foundation (NSF) has funded a range of optics and photonics projects. Perhaps the most well-known is LIGO (Laser Interferometer Gravitational-Wave Observatory). The long-term nature of the project presented great risk, but one that has demonstrated the importance of sticking with projects that might not have a clear end. Two new, light-based NSF programs, ACQUIRE (Advancing Communication Quantum Information Research in Engineering) and NewLAW (New Light and Acoustic Wave Propagation), although on a smaller scale, are investing in the same kind of transformative research. ACQUIRE will seek to produce highly secure modes of data transmission and NewLAW will find new ways in which light and sound waves propagate, paving the way for more compact communications systems and imaging technologies.

Because optics and photonics play such an essential role in all that we do, ensuring U.S. expertise in photonics manufacturing is critical. NSF is planning, through a "Dear Colleague Letter," to encourage researchers to participate in the newly established AIM Photonics Center, a consortium to advance technology and manufacturing of hybrid chips that combine optical and electronic elements. Such capabilities will impact virtually every sector that affects our lives, from the digital economy to communications and medicine.

As we look ahead, NSF will continue to look for new opportunities to help the scientific and engineering communities advance the understanding of these vital enabling technologies.

Dr. France A. Córdova
Director, National Science Foundation
Visit my blog!

Where Discoveries Begin...

State government R&D expenditures top $2.2 billion in FY 2015
Health-related projects made up the largest share of agency spending.

Monitoring micropollutants in New York state waterways
Using high-resolution mass spectrometry, researchers have doubled the amount of data available for exposure assessment.

Middle school students help restore oyster habitats
Young scientists are conducting research and improving the environment.

What's Next?

The National Science Foundation (NSF) and NBC Learn, the educational arm of NBC News, released an original video series that explores the connection between water, food and energy. The four-part "Human Water Cycle" series spotlights science and engineering research aimed at helping people use water more efficiently. Video's can be viewed online at this NSF Special Report, and Science360.gov.

Why NSF is vital to our nation's defense
William McRaven, University of Texas System chancellor and a retired four-star Navy admiral, describes NSF's critical importance to the Department of Defense and our nation's security. McRaven is former commander of the U.S. Special Operations Command and is considered one of the country's top foreign policy experts.

Subscribe

Tell us how NSF is making a difference in your community

Top image credits: Simulating eXtreme Spacetimes project - iStock - Shayan Mookherjea, UC San Diego

Our mailing address is:
National Science Foundation
2415 Eisenhower Avenue
Alexandria, VA 22314